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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/827,097	04/06/2001	Nobuaki Ono	205447US2	5017

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EXAMINER

ALLEN, DENISE S

ART UNIT	PAPER NUMBER
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2872

DATE MAILED: 03/27/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/827,097

Applicant(s)

ONO ET AL.

Examiner

Denise S Allen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-15 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 06 April 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 3,4,6-8.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Information Disclosure Statement*

The information disclosure statements filed April 6, 2001, April 10, 2002, May 2, 2002, June 3, 2002, and December 27, 2002 fail to comply with the provisions of 37 CFR 1.97, 1.98 and MPEP § 609 because Patent Applications included are not listed on the Forms 1449. They have been placed in the application file and the documents listed on the Forms 1449 have been considered, but the Patent Applications referred to above have not been considered as to their merits. Applicant is advised that the date of any re-submission of any item of information contained in this information disclosure statement or the submission of any missing element(s) will be the date of submission for purposes of determining compliance with the requirements based on the time of filing the statement, including all certification requirements for statements under 37 CFR 1.97(e). See MPEP § 609 ¶ C(1).

### *Drawings*

The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description: references 9a (page 26 line 16),  $\epsilon'$  (page 35 line 15), and C1' and C2' (page 38 line 25). A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference sign(s) not mentioned in the description: Figure 11 references C'1, C'2, d,  $\Delta X1$ , and  $\Delta Y1$ . A proposed drawing correction, corrected drawings, or amendment to the specification to add the reference sign(s) in the description, are required in reply to the

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Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

*Specification*

✓ The abstract of the disclosure is objected to because the phrase “A plurality of holding and fixing datums” (lines 15 – 16) is unclear because the term datum by definition is an item of factual information derived from measurement or research and not something that either holds or fixes parts. Suggested correction: replace the phrase “A plurality of holding and fixing datums” with “A plurality of holding and fixing locations”. Correction is required. See MPEP § 608.01(b).

The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

The disclosure is objected to because of the following informalities:

✓ The repeated phrase “a plurality of holding and fixing datums” (for example: page 9 lines 8 – 9) is unclear because the term datum by definition is an item of factual information derived from measurement or research and not something that either holds or fixes parts. Suggested correction: replace the phrase “a plurality of holding and fixing datums” with “a plurality of holding and fixing locations”.

✓ The phrase “the cover member 15” (page 26 line 2) is unclear because the cover member is identified as reference 14 previously and reference 15 is identified as the light source part previously. Suggested correction: replace the phrase “the cover member 15” with “the cover member 14”. Appropriate correction is required.

### ***Claim Objections***

Claims 1 – 15 are objected to because of the following informalities:

The limitation “holding and fixing datums” (claim 1 lines 19 – 20, claim 2 lines 7 – 9, claim 12 lines 19 – 20, and claim 14 lines 31 - 32) is unclear because the term datum by definition is an item of factual information derived from measurement or research and not something that either holds or fixes parts. Suggested correction: replace the limitation “holding and fixing datums” with “holding and fixing locations”. For the purpose of examination, the term datum(s) is interpreted to mean location(s).

The limitation “a transparent cover member can be mounted” (claim 2 line 5) is unclear because it contains the indefinite phrase “can be”. Suggested correction: replace the limitation “a transparent cover member can be mounted” with “a transparent cover member is mounted”.

The limitation “the same position” (claim 2 line 11) lacks antecedent basis because it has not been previously recited in claim 1 or 2. Suggested correction: replace the limitation “the same position” with “a position that is the same”.

The limitation “can be changed” (claim 8 line 22, claim 9 line 3, claim 10 lines 4 – 5, claim 11 line 4, claim 13 line 22, and claim 15 line 34) is unclear because it contains the indefinite phrase “can be”. Suggested correction: replace the limitation “can be changed” with “is changeable”.

Appropriate correction is required.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

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A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1, 3 – 7, and 12 are rejected under 35 U.S.C. 102(e) as being anticipated by Naiki et al.

Regarding claims 1 and 12, Naiki et al teaches an optical scanning device (Figure 7) comprising: a light source (Figure 8 reference 1); a coupling lens (reference 3) coupling a beam emitted from said light source (Figure 13A); a light deflector (Figure 7 reference 31) deflecting the beam from said coupling lens (Figure 7) at a uniform angular velocity (column 7 lines 23 – 25); a line-image imaging optical system (reference 30) disposed between said coupling lens and light deflector, and causing the beam to image a line image long along main scanning directions on or in the vicinity of a deflection reflective surface of said light deflector (Figures 13A and 13B); a scanning and imaging optical system (Figure 7 reference 34) causing the beam deflected by said light deflector to image a beam spot (Figures 13A and 13B) on a medium (reference 37) to be scanned; and an optical housing (Figure 7 reference 25) in which said light source, coupling lens, light deflector, line-image imaging optical system and scanning and imaging optical system are disposed, and contained, and wherein a plurality of holding and fixing datums (Figures 8 – 11 references 7a and 10a) for holding and fixing a light-source part (references 5 and 20) comprising said light source and coupling lens are provided in at least one of said light-source part and optical housing.

Regarding claim 3, Naiki et al teaches the light-source part and the line-image optical system are disposed on a common member (Figure 7 reference 25).

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Regarding claim 4, Naiki et al teaches the coupling lens and line-image imaging optical system are formed integrally (Figure 7).

Regarding claim 5, Naiki et al teaches the light-source part comprises a plurality of light-emitting sources (Figure 9 references 1 and 1').

Regarding claims 6 and 7, Naiki et al teaches the beam emitted from the light-source part comprises an approximately parallel beam (Figure 9 the beam exiting reference 3 is approximately parallel).

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 2, 8 – 11, and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Naiki et al.

Regarding claim 2, Naiki et al teaches an image forming apparatus as described above. Naiki et al further teaches said light deflector is covered by a cover (column 7 lines 57 – 58); said cover has a window for the beam to be incident on and exit from said light deflector (Figure 7 reference 35); and a transparent cover member is mounted on said window (column 7 lines 58 – 61). Naiki et al does not teach said holding and fixing datums are determined so that, by selectably using said holding and fixing datums, the beam deflected by said light deflector passes through said scanning and imaging optical system approximately at the same position whether or not said transparent cover member is mounted.

Based on Snell's Law, it is inherent that the transparent cover member, when it is mounted in the window of the cover, shifts the position of the beam relative to the beam's position when the transparent cover member is not mounted in the window of the cover. It would have been obvious to one of ordinary skill in the art at the time of the invention to selectably use the holding and fixing datums to adjust the position of the beam of Naiki et al for when the transparent cover member is mounted and for when it is not mounted in order to maintain the beam position on the medium to be scanned.

Regarding claims 8 – 11 and 13, Naiki et al teaches an optical scanning device (Figure 7) comprising a light source unit (reference 4) emitting a beam; a first imaging optical system (reference 30) causing the beam emitted by said light-source unit to image at a predetermined position (Figures 13A and 13B); a deflector (Figure 7 reference 31) receiving the beam from said first imaging optical system and performing scanning with the beam (column 7 lines 44 – 48); and a second imaging optical system (Figure 7 reference 34) causing the beam from said deflector to image a beam spot (Figures 13A and 13B) on a surface to be scanned (reference 37), and wherein: said light-source unit, first imaging optical system, deflector, and second imaging optical system are mounted in a box housing (Figure 7 reference 25); a transparent member (reference 35) of an approximately parallel plate is disposed detachably so as to be located between said first imaging optical system and deflector and between said deflector and second imaging optical system. Naiki et al does not teach the mounting position of said second imaging optical system is changeable according to whether or not said transparent member is provided.

Based on Snell's Law, it is inherent that the transparent cover member, when it is mounted in the window of the cover, shifts the position of the beam relative to the beam's



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position when the transparent cover member is not mounted in the window of the cover. It would have been obvious to one of ordinary skill in the art at the time of the invention to change the mounting position of the second imaging optical system along the main scanning direction and along the optical axis direction to adjust the position of the beam of Naiki et al for when the transparent cover member is mounted and for when it is not mounted in order to maintain the beam position on the medium to be scanned.

Claims 14 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kuroda in view of Naiki et al.

Kuroda teaches an image forming apparatus (Figure 9) comprising: an optical scanning device (references 10, 15, 20, and 25) scanning a surface of a photosensitive body (reference 30) with a beam (line with arrowhead) so as to form a latent image on said photosensitive body; said photosensitive body; a developing device (reference 32) developing the latent image so as to form a visible image; a transferring device (reference 33) transferring the visible image to a sheet recording medium (reference P); and a fixing device (reference 44) fixing the visible image onto the sheet recording medium. Kuroda does not teach the optical scanning device as claimed.

Naiki et al teaches the optical scanning device as described above. It would have been obvious to one of ordinary skill in the art at the time of the invention to use the optical scanning device of Naiki et al in place of the optical scanning device in the image forming apparatus of Kuroda in order to speed up the image forming process by using multibeam scanning.

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***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Denise S Allen whose telephone number is (703) 305-7407. The examiner can normally be reached on Monday - Friday, 8:30am - 5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cassandra Spyrou can be reached on (703) 308-1687. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9318 for regular communications and (703) 872-9319 for After Final communications.

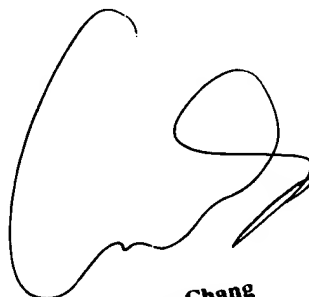
Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-1782.

Denise S Allen  
Examiner  
Art Unit 2872



dsa

March 21, 2003



**Audrey Chang  
Primary Examiner  
Technology Center 2800**